

Name: \_\_\_\_\_

### p1103: Factoring with box when $a = \text{prime}$ (v16)

#### Example

Use the box to factor  $2x^2 - 9x - 18$ .

Guess and check, based on factor pairs of  $-18$ , until you find the pair that results in a linear coefficient of  $-9$  after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	$-18$

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER:  $(2x + 3)(x - 6)$

#### Question 1

Use the box to factor  $3x^2 + 23x + 40$ .

*	x	
3x	$3x^2$	$15x$
8	$8x$	40

ANSWER:  $(3x + 8)(x + 5)$

### Question 2

Use the box to factor  $7x^2 - 31x - 20$ .

*	x	-5
7x	$7x^2$	-35x
4	4x	-20

ANSWER:  $(7x + 4)(x - 5)$

### Question 3

Use the box to factor  $5x^2 - 19x + 18$ .

*	x	-2
5x	$5x^2$	-10x
-9	-9x	18

ANSWER:  $(5x - 9)(x - 2)$